

## **REMARKS**

In response to the Office Action dated April 1, 2008, Applicants respectfully request reconsideration based on at least the following remarks. Applicants respectfully submit that the claims as presented herein are in condition for allowance.

The Examiner has stated that claims 13-16 are allowable. Applicants are grateful for indication of the same.

Claims 1-4, 10 and 13-16 are pending in the present application, while claims 5-9, 11, 12 and 17-30 are withdrawn from further consideration. Claims 11-4 and 10 stand rejected. Claims 1 and 10 have been previously amended to define over the prior art of record, as described in further detail below. No new matter has been added by the amendments. Applicants respectfully request reconsideration of claims 1-4 and 10 based upon the following remarks.

### **Drawing Objections**

The drawings stand objected to under 37 CFR 1.83(a). In particular, the Examiner states that “the photo detective module is exposed to an exterior to the body” must be shown or the feature(s) canceled from the claim(s).

In Response, Applicants respectfully point out that FIGS. 1, 2, 4, 6, 7, 14 and 16, as well as page 10, lines 22-24 of the specification as originally filed, indicate that the photo detective module 120 is exposed to an exterior to the body 110, as the photo detective module 120 is disposed in a pocket portion 114 which is exterior to the body 110.

Accordingly, it is respectfully requested that the objection to the drawing be withdrawn.

### **Claim Rejections Under 35 U.S.C. § 112**

Claim 1 is rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Regarding claim 1, the Examiner

states that there is no support for “ . . . the photo detective module is exposed to an exterior to the body . . . ” in the specification.

As noted above, page 10, lines 22-24 of the specification as originally filed indicates with respect to FIG. 1 that “the photo detective module 120 is installed in a pocket portion 114 having a pocket shape so as to detect the image light 10 that is directed from an external region of the body 110 to an internal region of the body 110.” FIGS. 1, 2, 4, 6, 7, 14 and 16 also depict the pocket portion 114 defining an exterior of the body 110. Furthermore, the photo detective module 120 is exposed to an exterior to the body 110 so as to receive the image light 10 from an exterior to the body 110 as depicted in FIGS. 1, 2, 4, 6, 7, 14 and 16.

Accordingly, it is respectfully requested that the rejection to claim 1 under § 112, first paragraph, be withdrawn.

### **Claim Rejections Under 35 U.S.C. § 103**

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Colgan, et al. (U.S. Patent No. 6,529,189 B1, hereinafter “Colgan”) in view of Mumford (U.S. Patent No. 6,377,249 B1, hereinafter “Mumford”), as stated on pages 2-3 of the Office Action. Applicants respectfully traverse for at least the following reasons.

A conventional light pen is turned on when the conventional light pen makes contact with a surface of an LCD panel. However, when the conventional light pen makes contact with the surface of the LCD panel, the surface of the LCD panel may be damaged. Therefore, in order to reduce damage to the surface of the LCD panel, the light pen of the present invention senses light emitted from the LCD panel to be turned on when the light pen approaches the LCD panel, instead of when the light pen makes contact with the LCD panel. However, environmental light must also be considered. Therefore, in order to turn on the light pen only when the light pen approaches the LCD panel, the control module in claim 1 outputs a control signal in response to a sensing signal when the level of the sensing signal is higher than a level of a reference signal.

In contrast, Colgan discloses merely discloses a stylus provided with push-buttons near its tip that can be actuated by the user during the course of pointing the stylus at a touch screen location. (See Abstract.) More specifically, Colgan just discloses a stylus input device for a touch screen, having no direct wire connection to the computer, with an ability to input right and left mouse button control input signals. (Col. 1, lines 10-54 and col. 2, lines 32-43.) Accordingly, by the combined actuation of the touch screen and a concurrent actuation of one or more of the push buttons, a mouse input to the computer is accomplished. (See Abstract.) In particular, Colgan discloses in column 3, lines 28-34 that the microcontroller 26 is normally in a "sleep" mode and in this state draws only a few microamps from battery 28. Microcontroller 26 is caused to automatically exit its sleep mode when one of buttons 12 or 14 is depressed or released. It then pulses light emitting diode (LED) 18, via an output pin, to indicate the new button state.

The Examiner states that "However, it is obvious for the control module of Colgan et al. to output a control signal in response to the sensing signal when the level of the sensing signal is higher than a level of a reference signal. (Page 4 of the Detailed Action)" However, it is respectfully submitted that the sensing signal of

Colgan is generated based on the push of the push buttons 12 and 14 that is generated regardless of the first light. In contrast, the sensing signal of the present invention is generated based on the first light.

Thus, Colgan teaches a stylus for actuation of a “touch screen” and buttons 12 and 14 for mouse button emulation, and teaches away from a light pen for actuation of photosensors on the external device.

Mumford merely discloses an electronic light pen used in conjunction with a video display that permits the position of the light pen to be determined with respect to the video display by the particular color or grey scale value of light emitted by the video display and received by the electronic light pen. Mumford further discloses that positional information of the light pen is calculated based on the relation of the color measured to the color previously programmed and presently displayed on that area of the screen, at any instant in time. (See Abstract.) Mumford does not teach a light pen that after a photo detective module thereof receives “a first light” from the display device, that it in turn “generates a second light” as claimed. In other words, Mumford is absent any teaching that the light pen emits a light to the display screen 12 (e.g., external device) in response to light emitted from the display screen 12, other than displaying a colored arrow, or other pointer, similar to a conventional mouse pointer, may be created by using software and may be continuously re-displayed to follow the light pen as it points to different parts of the screen, by determining the color gradient encountered by the light pen and re-positioning the arrow underneath the tip of the pen. (See Abstract.)

In sum, the photo sensitive detectors 23r, 23g and 23b of Mumford are disposed in the electronic light pen 20 to detect the light having passed through the light gathering optics 21 and the color filters 22r, 22g and 22b. However, the photo detective module 120 of the present **invention is exposed to an exterior to the body** 110 to directly detect the first light.

The Examiner states that “[h]owever, it is obvious for the control module of Colgan to output a control signal in response to the sensing signal when the level of

the sensing signal is higher than a level of a reference signal (page 3, lines 4-6)” However, the sensing signal of Colgan is generated based on the push of the push buttons 12 and 14 that is generated regardless of the first light. In contrast, the sensing signal of the present invention is generated based on the first light.

It is respectfully submitted that neither Colgan nor Mumford, either alone or in combination, disclose, teach or suggest the invention as recited in amended independent claim 1. Colgan does not disclose, teach or suggest the photo detective module. Further, Mumford does not disclose, teach or suggest the light generating module. Therefore, even if Colgan and Mumford were to be combined with each other, Colgan and Mumford cannot teach or suggest the organic combination of the photo detective module and the light generating module.

More specifically, neither Colgan nor Mumford, either alone or in combination, disclose, teach or suggest a photo detective module that is configured to **detect a first light inputted from an external source** to output a sensing signal of which level is changed in accordance with an intensity of the first light, the photo detective module being disposed in the body, **the photo detective module is exposed to an exterior to the body**; a control module that is configured to output a control signal in response to the sensing signal when the level of the sensing signal is higher than a level of a reference signal; **and** a light generating module that is configured to receive a driving power signal in response to the control signal **to generate a second light**, as recited in amended independent claim 1.

Moreover, the Examiner concedes on page 4 of the Detailed Action that Colgan does not specifically teach outputting a control signal in response to the sensing signal when the level of the sensing signal is higher than a level of a reference signal, but concludes that “it would have been obvious for the control module of Colgan et al. to output a control signal in response to the sensing signal when the level of the sensing signal is higher than a level of a reference signal.” However, the Examiner doesn’t point out any suggestion or motivation in either of the references for such a blanket assertion.

Thus, Applicants respectfully submit that claim 1, including claims depending therefrom, i.e., claims 2-4 and 10, of the present invention are patentable over the cited references.

The Examiner states that Colgan teaches all elements of claim 3 except *the photo detective module includes a photo transistor or a photo diode*, which the Examiner further states is disclosed primarily in column 6, lines 30-46 of Mumford.

Independent claim 1, from which claim 3 depends, is submitted as being allowable for defining over Colgan in view of Mumford, as discussed above.

Furthermore, it is respectfully submitted that *the photo detective module includes a photo transistor or a photo diode* as allegedly taught or suggested by Mumford or any other disclosure of Mumford does not cure the deficiencies noted above with respect to Colgan.

Thus, Applicant respectfully submits that claim 3 of the present invention is patentable over the cited references.

Accordingly, it is respectfully submitted that the rejection of claims 1-3 under 35 U.S.C. § 103(a) be withdrawn.

Claims 4 and 10 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Colgan in view of Mumford and in further view of Traub (U.S. Patent No. 3,911,270, hereinafter “Traub”) as stated on pages 3-4 of the Office Action. Applicants respectfully traverse for at least the following reasons.

The Examiner states that Colgan in view of Mumford discloses all of the elements of claims 4 and 10 except *an opening at the end of the body and a tip having a cylinder flange shape*, which the Examiner further states is disclosed primarily in FIG. 1 and column 2, lines 25-31 and 54-58 of Traub.

Independent claim 1, from which claims 4 and 10 depend, is submitted as being allowable for defining over Colgan in view of Mumford, as discussed above.

Furthermore, it is respectfully submitted that *an opening at the end of the body and a tip having a cylinder flange shape* as allegedly taught or suggested by Traub or any other disclosure of Traub does not cure the deficiencies noted above with respect to Colgan in view of Mumford.

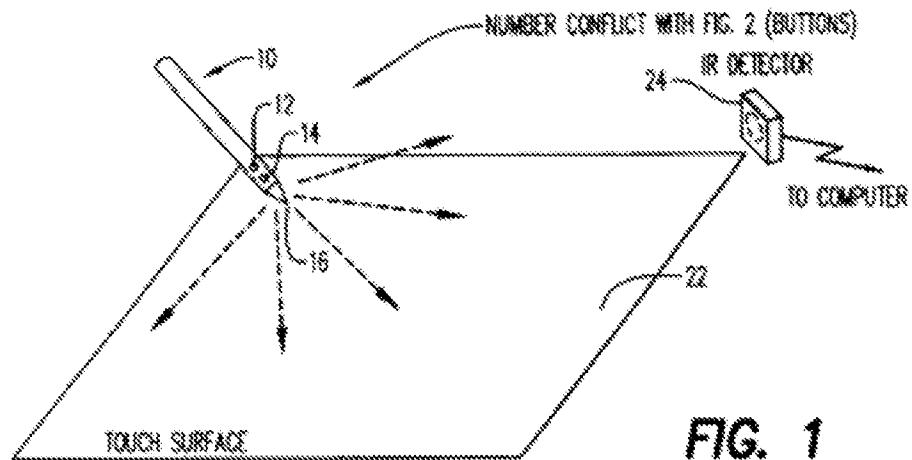
Accordingly, it is respectfully submitted that the rejection of claims 4 and 10 under 35 U.S.C. § 103(a) be withdrawn.

### **Response to Arguments**

The Examiner states that “a light pen that . . . receives ‘a first light’ from the display device” is not claimed. Applicants have amended the response to clearly point out that what is claimed is a light pen that includes a photo detective module of the light pen receives ‘a first light’ from the display device. Second, the Examiner argues that Colgan as modified by Mumford teaches a light pen that receives a first light from an external source and generates a second light. However, Applicants respond by pointing out that Applicants’ present invention does not result by such a modification, as generation of the second light results by concurrent actuation of one or more push buttons 12, 14 as disclosed in Colgan, as Mumford doesn’t teach a light generating module . . . to generate a second light.

Lastly, the Examiner’s argument with respect to the photo detective module 120 being exposed to an exterior to the body has been discussed above with respect to the drawing objections and rejections to the specification.

In particular, the photo sensitive detectors 23r, 23g and 23b of Mumford is disposed in the electronic light pen 20 to detect the light having passed through the light generating optics 21 and the color filters 22r, 22g and 22b. Also the IR detector 24 of Colgan is spaced apart from the stylus (FIG. 1).



**FIG. 1**

However, the photo detective module 120 of the present invention is exposed to an exterior to the body 110 to directly detect the first light. Therefore, it is respectfully submitted that the present invention is patentable over Mumford and Colgan for at least this reason.

**Conclusion**

In view of the foregoing remarks distinguishing the prior art of record, Applicants respectfully submit that this application is in condition for allowance. Early notification to this effect is requested. The Examiner is invited to contact Applicants' attorneys at the below-listed telephone number regarding this Amendment or otherwise regarding the present application in order to address any questions or remaining issues concerning the same. If there are any charges due in connection with this response, please charge them to Deposit Account 06-1130.

Respectfully submitted,

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Date: July 1, 2008